

BLACKBERRY PLANT NAMED 'DRISCOLL SONOMA'

Applicant hereby requests a updated Filing Receipt be issued which recites the amended title of invention.

**REMARKS**

To facilitate entry of the amendments, applicant encloses a substitute specification along with a copy of the original specification marked up to indicate where changes have been made (37 C.F.R. § 1.125 and MPEP 608.01(q)). In the marked-up version, deletions appear as strikethroughs and additions appear as underlined text. Attorneys for Applicant submit concurrently herewith a Statement pursuant to 37 C.F.R. § 1.125 affirming that the marked-up version of the Substitute Specification shows additions and deletions reflected in the Substitute Specification. Applicant submits that the instant response overcomes the outstanding objections to the specification and withdrawal of the objections is respectfully requested.

**Objection to the Declaration**

The Examiner has objected to the Declaration as defective for not complying with 37 C.F.R. 1.67(a). In response, applicant submits a new Declaration herewith, executed August 15, 2003.

**Objection to the Disclosure Under 37 C.F.R. § 1.163(a)  
and 35 U.S.C. § 112, First Paragraph**

The disclosure is objected to under 37 C.F.R. § 1.163(a) and 35 U.S.C. § 112, first paragraph, as allegedly not presenting a full, clear and complete botanical description of the plant and the characteristics that define and distinguish the plant from known cultivars and antecedents for the reasons set forth in the Objection to the Disclosure section. Applicant has amended the specification to incorporate additional features of the claimed blackberry variety in accordance with the Examiner's requests as follows:

**A. Heading Should Proceed Latin Name**

Applicant has amended the original specification at page 1, line 17, to so that the Latin name is now preceded by a heading in accord with 37 C.F.R. § 1.163(c)(4).

## **B. Age of Observed Plant**

The Examiner has objected to the disclosure as not reciting the age of the observed plant. Applicant has amended the original specification at page 2, line 13, to recite the age of the plant observed.

## **C. Asexual Reproduction Methods**

The Examiner has objected to the specification as not particularly pointing out “where and in what manner the variety of plant has been asexually reproduced.” In response, applicant has amended the original specification at page 1, line 15, to include information related to asexual reproduction of the plant.

## **D. Average Primocane’s Length**

The Examiner has requested that applicant set forth the average primocane length. Applicant has amended the original specification at page 2, line 28, to recite “average primocane length” as “213 cm”.

## **E. Yield**

The Examiner has objected to the term “medium” as vague and unclear with respect to yield. Applicant has amended the original specification at page 2, line 33, to define “medium” yield.

## **F. Color Designation of Florigane and Primocane**

The Examiner has requested that applicant set forth in the specification the color designation of the florigane and primocane in the interest of providing as complete a botanical description of the plant as reasonably possible. Applicant has amended the original specification at page 2, line 28, to recite the primocane and florigane colors.

## **G. “Relief between veins weak” is Allegedly Unclear**

The Examiner has objected to the phrase “relief between veins weak” as being unclear in relation to the leaf. Applicant has amended the original specification at page 2, line 33, to define “relief between veins” of leaf as “weak”.

## **H. Terminal Leaflet Shape**

The Examiner has objected to recitation of “cordate” in relation to the terminal leaflet shape. Applicant has amended the original specification at page 4, line 9, in Table 1 to replace “cordate” with “ovate”.

## **I. Leaf Surface Textures**

The Examiner has requested that applicant set forth in the specification the leaf surface textures on the upper and lower surfaces in the interest of providing as complete a botanical description of the plant as reasonably possible. Applicant has amended the original specification at page 2, line 28, to recite the leaf surface textures.

## **J. Pigmentation of Petiole**

The Examiner has objected to the recitation of pigmentation on the petiole as being unclear since no color is recited. Applicant has amended the original specification at page 2, line 28, to recite petiole color as “N186C”.

## **K. Stipule Size, Shape, and Color**

The Examiner has requested that applicant set forth in the specification the average stipule size, shape, and color in the interest of providing as complete a botanical description of the plant as reasonably possible. Applicant has amended the original specification at page 2, line 28, to recite that the stipule length averages 13 mm, width 1.2 mm, and color 144A.

## **L. “Late” Bud Burst**

The Examiner has objected to recitation of “late” in relation to the bud burst and time of opening of flowers. Applicant has amended the original specification at page 2, line 28, to explain the meaning of “late” in relation to flowering.

## **M. Petals**

The Examiner has requested that applicant set forth in the specification the number, shape, surface texture, and color of petals in the interest of providing as complete a botanical description of the plant as reasonably possible. Applicant has amended the original specification at page 2, line 28, to recite petal characteristics.

## **N. Pedicel Length**

The Examiner has objected to recitation of "short" in relation to length of pedicel. Applicant has amended the original specification at page 2, line 28, to explain the meaning of "short" in relation to length of pedicel.

## **O. Sepals**

The Examiner has requested that applicant set forth in the specification the number, size, and color of sepals in the interest of providing as complete a botanical description of the plant as reasonably possible. Applicant has amended the original specification at page 2, line 28, to recite sepal characteristics.

## **P. Reproductive Organs**

The Examiner has requested that applicant set forth in the specification the number, size, and color of reproductive organs in the interest of providing as complete a botanical description of the plant as reasonably possible. Applicant respectfully disagrees.

Easily measured reproductive organs (petals and sepals) are described elsewhere. Stigmas and styles are numerous in each flower and vary widely in size within a flower. In the applicant's opinion, not only would it be very tedious and difficult to measure stigmas and styles because of their small size, it would never be a repeatable measurement because of variability within and between flowers.

## **Q. Seed**

The Examiner has requested that applicant set forth in the specification the weight, size, and color of seeds in the interest of providing as complete a botanical description of the plant as reasonably possible. Applicant has amended the original specification at page 2, line 28, to recite seed characteristics.

## **R. Pest Resistance/Susceptibility**

The Examiner has requested that applicant set forth in the specification any further information regarding pest resistance and/or susceptibility in the interest of providing as complete a botanical description of the plant as reasonably possible.

Applicant has no further information regarding pest resistance and/or susceptibility.

### **S. Heat/Cold Resistance**

The Examiner has requested that applicant set forth in the specification any further information regarding heat and/or cold resistance in the interest of providing as complete a botanical description of the plant as reasonably possible.

Applicant submits that the hardiness cannot be ascertained as the plants have only been tested in the mild coastal areas of central California.

### **T. Market Use**

The Examiner has requested that applicant sets forth in the specification a brief statement regarding the market use of the fruit of the observed plant. Applicant has amended the original specification at page 2, line 28, to recite that 'Driscoll Sonoma' is a "highly flavored fresh market cultivar".

### **U. Shipping and Storage Characteristics**

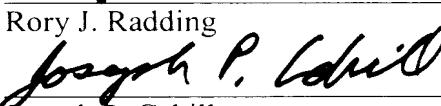
The Examiner has requested that applicant sets forth in the specification a positive quantification of shipping and storage characteristics. Applicant has amended the original specification at page 2, line 28, to recite shipping characteristics.

## **CONCLUSION**

In light of the above amendments and remarks, applicant submits that all of the outstanding objections have been obviated or overcome and should be withdrawn. Applicant further submits that the present claim is in form for allowance, and an early allowance is earnestly requested.

Respectfully submitted,

Date: September 4, 2003

  
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Enclosures

**BLACKBERRY PLANT NAMED 'DRISCOLL SONOMA'**

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**1. BACKGROUND OF THE INVENTION**

This invention relates to a new cultivar of blackberry called 'Driscoll Sonoma'. The new cultivar was developed from hybridization of the patented female cultivar 'Navaho', U.S. Plant Patent No. 6679, with the unpatented male cultivar 'Hull Thornless'. The parents were crossed in Spring 1991 whereafter fruit and seed were collected to produce seedlings for field planting in Watsonville, California in 1991. The new cultivar was selected in July 10 1993 for its good flavor, thornless canes, season of production and firm, attractive fruit. The cultivar has been asexually propagated, and reproduced true to type plants by *in vitro* shoot tip culture. The cultivar has been asexually propagated and reproduced true-to-type 15 plants by *in vitro* shoot tip culture.

**1.1 LATIN NAME OF THE GENUS AND SPECIES OF THE PLANT CLAIMED**

The variety is botanically identified as *Rubus* L. subgenus *Rubus*.

**2. SUMMARY OF THE INVENTION**

20 The present invention provides a new and distinct blackberry cultivar named 'Driscoll Sonoma'. The variety is botanically identified as *Rubus* L. subgenus *Rubus*. The new cultivar produces a floricane crop which begins in early July and continues until mid-September. The new blackberry variety is distinguished from other varieties by a number of characteristics as set forth in Table 1. In particular, the new cultivar is 25 distinguished by its thornless canes with fruit of excellent flavor and firmness which ripens at a time of the year when few other similar cultivars exist.

**3. COMPARISON TO SIMILAR VARIETIES**

The varieties that we believe to be similar to 'Driscoll Sonoma' from those known to us are the male parent 'Hull Thornless' and 'Chester', both unpatented cultivars. 'Driscoll 30 Sonoma' is particularly different from these cultivars by having slightly larger, more uniform shaped fruit, by ripening earlier, and having a less acidic flavor. Further detailed comparison to 'Chester' is presented in Table 1.

#### 4. BRIEF DESCRIPTION OF THE DRAWINGS

The accompanying photographs show typical specimens of the fruit, leaves and shoot of the new cultivar, in color as nearly true as reasonably possible in color illustrations of this type.

Fig. 1 is a photograph showing a primocane shoot and mature leaf of  
10 'Driscoll Sonoma'.

Fig. 2 is a photograph of a 'Driscoll Sonoma' fruiting lateral with fruit in various stages of development.

#### 5. DESCRIPTION OF THE NEW VARIETY

The following detailed description of the new blackberry cultivar, 'Driscoll Sonoma', is based upon recorded observations of plants and fruit grown between 1996 and 2000 in Watsonville, California, and is believed to apply to plants of the 'Driscoll Sonoma' cultivar grown in similar conditions of soil and climate elsewhere. The description is based on recorded observations of 2-5 year old plants. Plants were grown in soil previously pre-plant fumigated and regularly fertilized and irrigated with drip irrigation. This description is in accordance with terminology used by the International Union for the Protection of New Varieties of Plants (UPOV). Throughout this specification, color names beginning with a small letter signify that the name of the color, as used in common speech, is aptly descriptive. Color data beginning with a capital letter and followed by an alphanumeric code indicate the most similar color designations as provided by the Royal Horticultural Society (RHS) Colour Chart published by the Royal Horticultural Society of London, England. Color designations, color descriptions, and other phenotypical descriptions may deviate from the stated values and descriptions depending upon variation in environmental, seasonal, climatic and cultural conditions.

##### 5.1. CHARACTERISTICS OF THE NEW VARIETY

30 'Driscoll Sonoma' can be characterized by numerous characteristics. The average priomcane length is 213 cm. The primocane color is N186C (in RHS Colour Chart) on the exposed side and 144A (in RHS Colour Chart) on the shaded side. The floricance color is 146C (in RHS Colour Chart) on both the exposed and shaded sides. The relief between the veins of the leaf of 'Driscoll Sonoma' is weak, meaning there are very minor undulations between the veins and the leaves are nearly flat. The leaf surface has a few small soft hairs on the upper and lower surfaces. The petiole color is N186C (in RHS Colour Chart). The

5 stipule length averages 13 mm, width 1.2 mm, and color 144A (in RHS Colour Chart). Bud  
burst in Watsonville, California is late relative to most cultivars. Usually bud burst occurs  
from mid March to early April. Flowering lasts for 3-5 weeks and usually begins in late  
April to early May. The petals of 'Driscoll Sonoma' are five per flower, ovate in shape, and  
N155B in color (in RHS Colour Chart). The average length of the pedicel is short, 25 mm.

10 The sepals of 'Driscoll Sonoma' are five per flower, and 138B in color (in RHS Colour  
Chart). The seeds weigh about 3.4 mg and are approximately 3.2 mm long and about 1.9  
mm wide. 'Driscoll Sonoma' is most suitable for market use as a highly flavored fresh  
market cultivar. 'Driscoll Sonoma' has been successfully shipped for long distance under  
refrigerated storage and has remained in good condition for up to about 10 days when kept  
15 under cold storage conditions.

Table 1 provides information on the plant and fruit characteristics of the new blackberry cultivar, 'Driscoll Sonoma', compared with characteristics of the unpatented blackberry cultivars, 'Olallie' and 'Chester'. Both 'Olallie' and 'Chester' are currently important cultivars for fresh market shipping, and thus are comparable to the proposed use 20 of the new invention, 'Driscoll Sonoma'. Observations of 'Driscoll Sonoma' and 'Chester' were taken in side-by-side comparison in 1999 and 2000. The yield of 'Driscoll Sonoma' is medium, meaning an average yield of about 14,000 pounds per acre in comparison to Olallie which averages around 21,000 pounds per acre.

The new blackberry cultivar is particularly characterized and distinguished from 25 other cultivars by its fruit with excellent flavor and shipping quality. The fruit of 'Driscoll Sonoma' is very attractive with a solid black color that rarely shows post harvest drupelet color reversion.

The canes of 'Driscoll Sonoma' are thornless and of low to moderate vigor until well established. Yield of the new cultivar is moderate in comparison with other varieties. 30 Driscoll Sonoma is distinguished from its pollen parent, 'Hull Thornless', by being earlier, less vigorous, and having larger less acidic fruit. Driscoll Sonoma is distinguished from its seed parent, 'Navaho', by having greater vigor and larger fruit.

**TABLE 1**  
**PLANT CHARACTERISTICS OF 'DRISCOLL SONOMA'**

<b>Driscoll</b>	Olallie	Chester
<b>Sonoma</b>		

**GENERAL**

Vigor	Low-moderate	Moderate-high
Growth habit	semi-upright	trailing
Productivity	medium	high
Self fruitfulness	yes	yes
Number of young shoots	medium	medium

Vigor	Low-moderate	Moderate-high
Growth habit	semi-upright	trailing
Productivity	medium	high
Self fruitfulness	yes	yes
Number of young shoots	medium	medium

**CANES**

petioles	Primocanes	
	Anthocyanin coloration	
	Spines	absent
	color	present
	attitude of tip	purple
	texture	horizontal
	presence and distribution on	heavy
		absent
		present; irregularly distributed
		absent
density in central third of shoot	medium	
Internodal distance (cm) - central		
third of mature cane	3	
Glaucosity on full grown shoot	2.6	
Strength of full grown shoot	3.1	
Cane cross section	weak	

Anthocyanin coloration	absent	present
Spines	absent	present
color	purple	-
attitude of tip	horizontal	-
texture	heavy	-
presence and distribution on	absent	absent
	present; irregularly distributed	
	absent	
density in central third of shoot	medium	-
Internodal distance (cm) - central		
third of mature cane	3	2.6
Glaucosity on full grown shoot	weak	weak
Strength of full grown shoot	medium	strong
Cane cross section	angular	rounded to angular
		angular to grooved

**LEAVES**

Relief between veins	medium	medium	medium
Number of leaflets	usually 5	usually 3	usually 5
Leaf color	medium	medium	light
upper side	139A, 147A	137A, 137B	147A
underside	147B	147B	146A
Glossiness of upper surface	medium	medium	dull
Leaf cross section	concave	concave-flat	concave
Terminal leaflet			

length (cm)	10.8	8.9
width (cm)	8.5	7.6
shape	cordate-ovate	cordate
tip	acuminate	acuminate
base	rounded	cordate
margin	double serrate	double serrate

Lateral leaflet			
overlap of lateral leaflets	overlapping	overlapping	overlapping
length (cm)	10.3	8.7	10.2
width (cm)	7.1	6.1	7.1

shape	ovate	ovate	ovate
tip	acuminate	acuminate	acute
base	rounded to acute	acute	acute
margin	double serrate	double serrate	serrate
Petiole			
mean length (cm)	9.4	5.3	7.9
range	7.3-11.1	3.6-8.7	3.9-10.2
pigmentation of upper surface	reddish	green - slightly pink	purple
pigmentation of underside	green	green - slightly pink	green - pinkish
Length of stalklet	short	very short	medium
Rachis length (cm) between terminal and adjacent lateral leaflets)	3.8	2.8	3.1
Stipule orientation	erect	variable; clasping to erect	erect

## FLOWERS

Time of bud burst	late	early	late
Time of beginning of flowering	late	early	late
Flower size	medium-large	small to medium	small to medium
Petal size			
length (mm)	19.6	16.5	18.3
width (mm)	14	11.7	10.9
Anthocyanin color of pedicel	absent	absent	present
Intensity of pedicel coloration	-	-	weak
Length of pedicel	short	long	short
Flower number (third node from tip of lateral)	1.25	3.6	2

late	early	late
late	early	late
medium-large	small to medium	small to medium

19.6	16.5	18.3
14	11.7	10.9
absent	absent	present
-	-	weak
short	long	short
1.25	3.6	2

## FRUIT

Harvest season	mid-late	early	mid-late
Dimensions	3.6	5.2	3.2
weight (g/fruit)			
size	medium	small	
length (cm)	2.4	3.3	1.9
width (cm)	2.1	1.4	1.9
Fruiting lateral length (in mid cane)	medium-long	medium	medium - long
mean number of fruit per lateral			
range	11.6	6.2	22.8
	8-16	3-9	17-40
Shape	ovate to elliptic longer than broad	narrow ovate much longer than broad	round to ovate as long as broad
Color	black	purple-black to black	black
immature	183A	178A - 183B	184A
maturing	187A	187A	200A - 202A
mature	202A	200A	202A
Firmness	medium	medium	firm
Glossiness	medium	medium - strong	medium
Soluble solids	12	9.7	9.9
Titratable acidity (% as citric acid) (ml of added 0.1N NaOH to pH 8.1)	9	13.3	9.9
Number of drupelets per fruit	60	86	40

mid-late	early	mid-late
3.6	5.2	3.2
medium-small	medium	small
2.4	3.3	1.9
2.1	1.4	1.9
medium-long	medium	medium - long
11.6	6.2	22.8
8-16	3-9	17-40
ovate to elliptic longer than broad	narrow ovate much longer than broad	round to ovate as long as broad
black	purple-black to black	black
183A	178A - 183B	184A
187A	187A	200A - 202A
202A	200A	202A
medium	medium	firm
medium	medium - strong	medium
12	9.7	9.9
9	13.3	9.9
60	86	40

## 5.2. NUCLEIC ACID FINGERPRINTING

Distinctive patterns of polymorphism can be detected using a variety of nucleic acid analysis methods. In one non-limiting example, molecular genetic maps can be produced 10 using random amplified polymorphic DNA (RAPD) (Williams et al., 1990, "DNA polymorphisms amplified by arbitrary primers are useful as genetic markers", Nucleic Acids Res. 18(22):6531-5). Using a variety of oligonucleotide primers, alone or in combination, RAPD analysis of Driscoll Sonoma, Chester, and Olallie yielded DNA fragment patterns that uniquely distinguish each of these genetically distinct genotypes.

## WE CLAIM:

1. A new and distinctive cultivar of blackberry plant, substantially as shown and described.

**ABSTRACT**

The present invention relates to a new and distinct cultivar of blackberry plant named 'Driscoll Sonoma'. The new cultivar is distinguished from other blackberry cultivars by its fruit of excellent fruit flavor and shipping quality. 'Driscoll Sonoma' is a 10 thornless mid-late season cultivar. The new cultivar is distinguished from its seed parent by its larger fruit and greater plant vigor. The new cultivar is distinguished from its pollen parent by its larger, better flavored fruit.